Komal Neupane

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EDUCATION

Columbia University *August 2026 – December 2027*
Master of Science in Data Science

New York University *August 2022 – May 2026*
Bachelor of Science in Computer Science; Minors: Economics and Mathematics *CGPA: 3.91 (Cum Laude)*

Relevant Coursework: Forecasting Time Series Data, Advanced AI & Machine Learning, Applied Machine Learning, Applied Data Science, Software Engineering, Foundation Model Engineering, Natural Language Processing, Data Science Applications in Banking and Insurance, Probability and Statistics, Linear Algebra, Multivariable Calculus, Microeconomics, Algorithms

RESEARCH AND WORK EXPERIENCE

Social Sciences Department, New York University Abu Dhabi, UAE
Summer Research Assistant, Computational Social Science *May 2026 – July 2026*

- Extended bml R package, a statistical tool adopted by 100+ statistical researchers, for modeling units belonging to multiple overlapping groups, to capture how effects aggregate across group memberships.
- Applied this framework to labor markets, modeling how sectors, occupations, and skills interact to shape workforce dynamics; findings presented at an international methods conference at Oxford University (July 2026).

Computation and Cognition Lab, New York University New York, NY
Researcher, Modeling Human vs LLM Cognitive Decisionmaking *August 2025 - May 2026*

- Executed a comparative study of human vs. AI question-asking strategies using the “20 Questions” paradigm, applying Bayesian Information Gain frameworks, testing 50 people against 5 LLMs, to quantify inquiry efficiency.
- Reported LLMs achieving human-level accuracy with 78% fewer questions, suggesting divergent strategies for resolving epistemic uncertainty.

The Supreme Court of Nepal Kathmandu, Nepal
Project Lead: AI Integrated Legal Search Engine Development *May 2025 – August 2025*

- Led development of an AI-integrated legal research tool for Nepali language, providing access to over 11,000 landmark precedents with citations; this system is replacing Nepal's existing case law search engine serving 20,000+ lawyers.
- Contributed inputs about AI bias and governance frameworks to draft the ethical AI guidelines for the Judiciary.

Data Science and AI Lab, New York University Abu Dhabi, UAE
Researcher *April 2025 – July 2026*

- Studied effects of AI adoption on labor markets across demographics using machine learning and econometric models, using Python for data processing, modeling, and evaluation.
- Audited 5 LLMs (ChatGPT, Claude) and 3 ATS platforms (Workable, Greenhouse) for nationality-based bias, applying fairness-auditing standards to compare outcomes for Global South vs. Global North candidates.

Center for Interacting Urban Networks (CITIES) Abu Dhabi, UAE
Data Analyst: Spatiotemporal Data Modeling *May 2024 – August 2024*

- Modeled spatiotemporal traffic data from 5 cities and 1,000+ sources and probe vehicle deployment strategies; co-authored a paper presented at UAE Graduate Conference 2025.

SKILLS

Machine Learning & NLP: Deep Learning, Transformers, LLM Fine-Tuning (LoRA/PEFT), Hugging Face, Prompt Engineering, RAG, Reinforcement Learning
Statistical Modeling: Bayesian Inference, Causal Inference (DiD, IV), Time-Series Analysis, A/B Testing, Regression Analysis
Programming & Data Engineering: Python, R, SQL, C/C++, JavaScript (React), Spark, ETL Pipelines
Cloud & Tools: GCP, Vertex AI, Vercel, Git, Jira, PyTorch, TensorFlow, Scikit-learn
Visualization & Reporting: Power BI, Tableau, LaTeX

AWARDS AND LEADERSHIP

NYUAD AI Club Abu Dhabi, UAE
President *January 2026 – May 2026*

- Led a student organization focused on AI safety and governance, organizing 4 cross-disciplinary events for 100+ attendees and establishing mentorship opportunities by connecting students with faculty, researchers, and alumni.

Schwarzman College, Tsinghua University Beijing, China
Schwarzman Scholars Finalist (Waitlisted) *October 2025*

- Selected as one of ~200 finalists from 6,000+ applicants for research and leadership potential in AI governance.